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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,750	09/29/2003	Timothy J. Dupuis	SIL.P0066	1480
30163	7590	12/29/2004	EXAMINER	
JOHNSON & ASSOCIATES			SHINGLETON, MICHAEL B	
PO BOX 90698			ART UNIT	
AUSTIN, TX 78709-0698			PAPER NUMBER	

2817

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,750

Applicant(s)

DUPUIS, TIMOTHY J.

Examiner

Michael B. Shingleton

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8, 10-17, 25-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-8, 10-17 and 25-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/25/04 and 3/1/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The affidavit filed on 9-27-2004 under 37 CFR 1.131 has been considered but is ineffective to overcome the Denning et al. reference.

The evidence submitted is insufficient to establish applicant's alleged actual reduction to practice of the invention in this country or a NAFTA or WTO member country after the effective date of the Denning et al. reference. Specifically, the submission of the E-mails attached to the affidavit is not a sufficient factual showing that the to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference. It can not be established that the subject matter of the instant application is the present in the submitted E mails. Dated drawings, records etc. that provide a clear showing of the invention could possibly provide a sufficient showing of facts as recited in 37 CFR 1.131 (b). (See MPEP 715).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 8, 14-17, 25-27, 29, 30 and 31 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Denning et al. 6,525,611 (Denning).

Figures 3 and 4 of Denning discloses a RF power amplifier 12 wherein a peak detector and control circuit means 18 is provided for such that this circuitry 18 includes a peak detector composed of at least elements Q2- Q8 (See column 4, around line 27). As the abstract and columns 3-6 clearly point out the

detected peak voltage is compared to a threshold and if that threshold is exceeded then the gain of the power amplifier is reduced and the amplifier protected. The detection of the peak level in Dening inherently is a power detector. The above circuitry also provides a method for protecting a RF power amplifier. The method that is part of the above circuitry includes the steps of detecting the peak voltage at a first node of the power amplifier wherein the first node of the power amplifier is the output node shown in Figures 3 and 4 of Dening. This peak voltage is compared to a threshold and if the detected voltage is greater than the threshold then the gain of the power amplifier is reduced. Likewise the gain of the power amplifier is increased, as compared to the gain when the output is above the threshold, if the detected power level is less than a desired power level. This occurs when the detected peak voltage is lower than the threshold voltage. It is noted that the examiner must give the broadest reasonable interpretation to the claims in light of the specification. Thus a power level that occurs when the peak voltage is less than a certain threshold level is a detected output power level that is less than a desired power level and is a detected peak voltage that is lower than the threshold voltage. If the peak detection is greater than a threshold then the selected output power is greater than a desired power level. Note that transistor Q1 is a "switching device" being that it is a transistor and thus this is seen as meeting the limitations of claims like claim 27. Note that C2 and C3 forms a capacitive divider.

Claims 8, 14-17 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kashima 6,069,528 (Kashima).

Figure 1 of Kashima discloses a circuit and method for "protecting" devices in an RF power amplifier and a method of controlling an RF power amplifier. This circuit/method includes providing a peak detector, elements 3 and 4 that are connected to a RF power amplifier 1. This peak detector clearly detects a peak voltage at a first node of the power amplifier, i.e. the output of the power amplifier. This circuit/method disclosed by Kashima also includes providing for power control circuitry 7. This control circuitry 7 is coupled to the peak detector and the power amplifier as is clearly illustrated by Figure 1 of Kashima. This power control circuitry also controls the gain of the power amplifier (See column 3, lines 37-63). This control circuitry does this by determining whether the detected peak voltage is higher than a threshold voltage provided by elements 8 and 9. If this detected voltage is higher than the threshold voltage then the gain of the power amplifier is decreased. This limits the power output of the amplifier. If this detected voltage is lower than the threshold voltage then the gain of the power amplifier 1 is increased. Again see column 3, lines 37-63. The coupler 2 "detects" the output power of the RF power amplifier 1 as read in light of the specification. Note the sentence bridging pages 6 and 7 of the specification. Here applicant states: "[a] power detector, such as (a) directional coupler 112, is used to

detect the output power.” Also this directional coupler 2 of Kashima is clearly illustrated in Figure 1 of Kashima as being coupled to the output of the power amplifier and the control circuitry 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 28, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dening et al. 6,525,611 (Dening) in view of French 5,510,753 (French).

Figures 3 and 4 of Dening discloses a RF power amplifier 12 wherein a peak detector and control circuit means 18 is provided for such that this circuitry 18 includes a peak detector composed of at least elements Q2- Q8 (See column 4, around line 27). As the abstract and columns 3-6 clearly point out the detected peak voltage is compared to a threshold and if that threshold is exceeded then the gain of the power amplifier is reduced and the amplifier protected. The detection of the peak level in Dening inherently is a power detector. The above circuitry also provides a method for protecting a RF power amplifier. The method that is part of the above circuitry includes the steps of detecting the peak voltage at a first node of the power amplifier wherein the first node of the power amplifier is the output node shown in Figures 3 and 4 of Dening. This peak voltage is compared to a threshold and if the detected voltage is greater than the threshold then the gain of the power amplifier is reduced. Likewise the gain of the power amplifier is increased, as compared to the gain when the output is above the threshold, if the detected power level is less than a desired power level. This occurs when the detected peak voltage is lower than the threshold voltage. Thus the gain control circuit is also a power control circuit and the peak detector is also a power detector. The claims do not recite a power detector that detects average power. It is noted that the examiner must give the broadest reasonable interpretation to the claims in light of the specification. Thus a power level that occurs when the peak voltage is less than a certain threshold level is a detected output power level that is less than a desired power level and is a detected peak voltage that is lower than the threshold voltage. If the peak detection is greater than a threshold then the selected output power is greater than a desired power level. Note that transistor Q1 is a “switching device” being that it is a transistor and thus this is seen as meeting the limitations of claims like claim 27. Note that C2

and C3 forms a capacitive divider. Dening fails to detect the peak voltage at a node other than the output of the power amplifier.

An alternative to sensing the peak voltage at the output of the power amplifier is to sense it at the input of the amplifier. French shows this in Figures 3 and 4. Note element 108. This allows for a fast response especially in certain fault conditions like a short (See column 10 around line 37). Furthermore, clearly the output of the power amplifier is proportional to the input and thus the peak detector at the input is in effect sensing the power at the output of the power amplifier.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect the power of the amplifier at the output of the power amplifier via a peak detector at the input of the power amplifier given the art recognized equivalence of these two peak detector circuits as taught by French. One of ordinary skill in the art would have been additionally motivated to make the combination because the sensing of the input of the power amplifier is at a lower level than directly at the output.

Claims 13, 26-28, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashima 6,069,528 (Kashima), in view of French 5,510,753 (French).

Figure 1 of Kashima discloses a circuit and method for “protecting” devices in an RF power amplifier and a method of controlling an RF power amplifier. This circuit/method includes providing a peak detector, elements 3 and 4 that are connected to a RF power amplifier 1. This peak detector clearly detects a peak voltage at a first node of the power amplifier, i.e. the output of the power amplifier. This circuit/method disclosed by Kashima also includes providing for power control circuitry 7. This control circuitry 7 is coupled to the peak detector and the power amplifier as is clearly illustrated by Figure 1 of Kashima. This power control circuitry also controls the gain of the power amplifier (See column 3, lines 37-63). This control circuitry does this by determining whether the detected peak voltage is higher than a threshold voltage provided by elements 8 and 9. If this detected voltage is higher than the threshold voltage then the gain of the power amplifier is decreased. This limits the power output of the amplifier. If this detected voltage is lower than the threshold voltage then the gain of the power amplifier 1 is

increased. Again see column 3, lines 37-63. The coupler 2 "detects" the output power of the RF power amplifier 1 as read in light of the specification. Note the sentence bridging pages 6 and 7 of the specification. Here applicant states: "[a] power detector, such as (a) directional coupler 112, is used to detect the output power." Also this directional coupler 2 of Kashima is clearly illustrated in Figure 1 of Kashima as being coupled to the output of the power amplifier and the control circuitry 7. Kashima is silent on the use of a transistor i.e. switching device for the power amplifier. It is well-known to employ a transistor for a power amplifier. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a transistor in the power amplifier of Kashima because, as the Kashima reference is silent on the exact power amplifier circuit one of ordinary skill in the art would have been motivated to use any art-recognized equivalent power amplifier circuit including the conventional power amplifier that utilizes a power amplifier.

An alternative to sensing the peak voltage at the output of the power amplifier is to sense it at the input of the amplifier. French shows this in Figures 3 and 4. Note element 108. This allows for a fast response especially in certain fault conditions like a short (See column 10 around line 37). Furthermore, clearly the output of the power amplifier is proportional to the input and thus the peak detector at the input is in effect sensing the power at the output of the power amplifier.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect the power of the amplifier at the output of the power amplifier via a peak detector at the input of the power amplifier given the art recognized equivalence of these two peak detector circuits as taught by French. One of ordinary skill in the art would have been additionally motivated to make the combination because the sensing of the input of the power amplifier is at a lower level than directly at the output.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-8, 10-12, 25-27, 29 and 30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,828,859. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: The claims of the instant application differ from the claims of the '859 application by the use of different wording such as the term critical nodes. The claims of the '859 patent senses the power at the output of the amplifier and thus this is seen as a critical node. Furthermore, the claims of the instant application are broader in scope than the '859 patent. For example claim 25 of the instant application does not include the two peak detectors like the independent claim 1 of the '859 patent. As noted the subject matter of claim 25 is present in claims like claim 1 of the '859 patent.

Claims 2-7, 10-12, ~~18 and 19~~ are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Note that this is dependent upon the double patenting rejection being over come.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is 571-272-1770. The examiner can normally be reached on Monday-Thursday from 8:00 to 4:30. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

MBS

December 24, 2004

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